Nucleonica Comments

UPGRADE VERSION 52

1) Administration, User maintenance, Add/Edit:
    - Replace Type of **customer** with Type of User
    - From above page, changing to Edit Preferences leads to a Server error
    - Pending order: don't we need a button to refuse/delete an upgrade?
2) Upgrade your Account:
    - For Upgrade user, there is no Upgrade list; clicking the upgrade button is acknowledged by "your order has been posted!" but it doesn't appear in Administrators pending orders.
    - Changing the licence number to 2 will delete the account after upgrading.
    - Adding the deleted user leads to error: user already exist! The UserTypeID was set to -1 (I correct it directly in the database)
3) UPGRADE request: we need an Alert/email-alert to the administrator.
4) Reference data:
    - The prompt gamma tab should be de-activated (light grey)
    - On the print tab, the checkbox for prompt gamma should be disabled.
5) On the portal, the prompt gamma should be disabled and greyed out
6) The package features are in the UsersType table, which should be updated. The feature chart ideally should display this data.
7) There are currently two elements (Ag95 and Zn61) with 3 isomeric states (m, n & p). The nuclide boxes display only m & n; in the mass drop down list, the mass appears 4 times but the p-state letter is missing (Zn: 61, 61m, 61n & 61) so it cannot be selected
8) It should be possible to select an isomer in the reference data by clicking the isomer-box (if it can be done easily!).
9) When Binding –Energy colour theme is selected, and we zoom into a particular area, can we show the actual binding energy in the boxes (e.g. 4.35 MeV)
10) When spin & parity colour theme is selected, and we zoom into a particular area, can we show the actual spin and parity in the boxes (e.g. $3/2^{+}$)

11) Within Applications, we need close to the nuclide box, the currently selected colour theme of the chart.
12) In the Select colour themes use following ordering (with group separator-):

Standard
Kalrsruhe
Strasbourg

General Electric
JAERI

Spin
Spin
Parity
Spin+Parity

Binding Energy

13) In the Applications drop down menu use a similar grouping as in above..

Navigation

Applications

Data

Knowledge

14) Nuclide Chart, Binding Energy:
    - The legend should indicate if given limits are included or not in the BE interval

For example (remove "other")

0 < BE ≤ 4 MeV
4 < BE ≤ 6 MeV
6 < BE ≤ 8 MeV
8 < BE ≤ 8.2 MeV
8.2 < BE ≤ 8.3 MeV
8.3 < BE ≤ 8.4 MeV
8.4 < BE ≤ 8.5 MeV
8.5 < BE ≤ 8.6 MeV
8.6 < BE ≤ 8.7 MeV
8.7 < BE
Unknown

- Unknown: the nuclide box appears empty: change the default text colour to white
- Unknown and Other have been interchanged
- Isomers don't have a BE in the database, but it is possible to compute it as:
  $BE_m = BE_g$ + isoME/A (I can update the table)
- For Cl38 the ground- and m-state should have different colours
  BE_{Cl38g} = 8.50548 Mev : red (correct)
  BE_{Cl38m} = 8.48781 Mev : red in Ref.Data or white in NE (false: correct is dark blue)

15) Spin integral/half-integral: unknown should have a better contrast to the two other colours (change colour to yellow for example).

16) Spin magnitude (similar to table for BE): 0≤J<1,… 7≤J<18, 18≤ J, unknown

0 ≤ J ≤ 1
1 < J ≤ 2
2 < J ≤ 3
3 < J ≤ 4
4 < J ≤ 5
5 < J ≤ 6
6 < J ≤ 7
7 < J ≤ 20
20 < J
Unknown

17) Parity: Zr109 is blue (even) but actually unknown

- Numbers below the nuclide chart - Unknown displays none but counts 2 metastables
- Unknown should be a lighter colour (e.g. yellow)

18) Spin+Parity:

- The legend should indicate clearly if the limit is true or false: -8<SP≤-6

$J^{\pi} \leq 8^-$
$8^- < J^{\pi} \leq 6^-$
$6^- < J^{\pi} \leq 4^-$
$4^- < J^{\pi} \leq 2^-$
$2^- < J^{\pi} \leq 0^-$
$0^- < J^{\pi} \leq 2^+$
$2^+ < J^{\pi} \leq 4^+$
$4^+ < J^{\pi} \leq 6^+$
$6^+ < J^{\pi} \leq 8^+$
$8^+ < J^{\pi}$
Unknown

Please check that the limits are properly tested.
e.g. For SP< -8, I get Sb126, Sb128 & Sb130(8-), Md258(1-) (SP≤-8)

- When I go to the reference data after right clicking on a nuclide, and go back to chart, than a click on All or None or on a checkbox will redisplay the previous reference data (same problem by spin magnitude, or by selecting a new chart)

- Metastable states are always white – but they should have a colour depending on their J^{π} value

19) JEARI:

- By nuclides with m & n states, the m and n boxes show the same half life (this is wrong). The problem exists also by GE, Strasbourg and Standard
- isomer states have the wrong colour
- please change legend to:

halflife ≤ 10 min.
10 min. < halflife ≤ 30 d
30 d < halflife ≤ 5 x10^8 y
Stable/primordial

20) General electric:

- m & n states, see JEARI
- use legend

halflife ≤ 1 d
1 d. < halflife ≤ 10 d
10 d < halflife ≤ 100 d
100 d < halflife ≤ 10 y
10 y < halflife ≤ $5x10^8$ y
Stable/primordial

21) You can check the nuclide number with the SQL stored procedures:
    - PrimaryMainDecayModes: counts the number of nuclides for each main mode
    - QueryDMIName: counts the nuclides for each specific decay mode
22) Fission Yields:
    - The fission library and the type of fission should be displayed on the result tab
    - Selecting fission products with a minimum half life should display the stables.
    - Selecting fission products with a maximum half life doesn't work: with Am241 and max halflife =1ns only the stables appears
    - Selecting min *and* max works
    - Advanced compare: after selecting an other fissioning system the title of the first data column changes from **JEFF-3.1-Pu239F** to **JEFF-3.1-0F**
    - Libraries compare: Note that the given Δ's are relative errors.
    - Clicking the libraries tab leads currently to server error
    - After drawing of a first yield graph, the y-axis should be rescaled as needed for a new fission product selection.
    - Changing a FP selection has no effect to graph; the graph reflects the new selection only after showing the results: put the graph on the result tab as in other applications?
    - Also the Fission Yields tab are updated only after clicking the results button, not by clicking the tab itself
    - For Pu239F the only FP with mass=4 is He4 with Y_in=Y_cu=0.00219. The chain graph settings display x min as this value, but x max=0.2409: where comes this value from? With Auto Scale Y set to on, the ticks on the y-axis disappears in that case.
    - In some case the Chain Yield Graphic button disappears.
    - Can we get an option button for 3D representation of fission yield graphs?
23) Names of Ds, Rg and Uup should be updated (in the database, Raymond)
24) Portal search: can the found article be a link to access it directly? E.g. fluorine: the Element info category is a link but the url of the founded article isn't a link
25) Knowledge Centre, Elements Information:
    - The name and symbols of elements 110Un, 111Uu and 112Ub should be updated.
    - Elements 113 to 118 should be added
    - Fluorine: line 3, in 18**86** by Moisson; line 12: **E**lemental fluorine. Raymond can do this)

26) Decay Engine:
- can you use superscript for exponent in text on the graph-axis instead of e.g. t[Years]10^9?
- scientific notation for data downloading, with 2 decimals e.g. 2.34E6
- Downloading the graph leads to server error.
- when one change the nuclide selection the graph had to be redraw; but the redraw graph button, inside the graph settings, is not visible at that time
- Print graph: the page should have a date & time a title, the logo, and the set of decay parameter: nuclide or mixture, quantity, number of time steps, accuracy factor and number of chain and the result table.
- Do a decay calculation with mixture Natural Uranium. When I click on the mass the results should be arranged with the greatest value on top (applies also for other tab headings) - at present the first click shows the smallest masses.
- Following the above procedure I now have the masses arranged – greatest value first etc. Now when I redo the calculation with a new time, the results are shown with no ordering on the mass. In this case the program should have remembered the settings (i.e. arrangement on mass) so that the results with the new time show the greatest mass first etc.
- When I try to re-arrange with the option Isotopic powers I get internal server error
- Rearranging on halflife does not work properly
- Not sure that rearrangement on "Decay Mode" is working properly

27) Dosimetry and Shielding
- Download Excel: in the unit for Γ(mSv.m²,/GBq/h)) the coma is wrong
- Downloading the graph leads to an error
- Print graph: the graph can be printed on the same page as the print results.
- Print: add a logo and a date& time; add the threshold.
- Place the Redraw graph button in a more useful position - next to the Hide Graph Settings button?
- Choose a mixture e.g. natural uranium (consists of U238, U235, U234). Ih the D&S the graph contains all the line in B/W. It would be better to have three different colours – one each for component of the mixture e.g U238, U235, U234
- When we look at Results Details, the first column contains Natural Uranium. Thisi s not necessary since it is printed out at the top of page. In this column we should give the nuclide component e.g. u238 or U235 or U234.
- When I press Show details, the section half-value thickness and number of line extends over the full width of browser. The browser is too wide. In the large table use 2 lines for the column header – this will save lots of space.

28) Mass Activity Calculator
- Please avoid a page refresh here – can we have an ajax control do that only the combo-box is refreshed

An alternative would be to slightly redesign the Mass Activity Calculator i.e

Input

Unit	**Quantity**
Grams	1

Output

Unit	**Quantity**
Grams	1
Becquerel	5.9248E+15
Curie	1.6013E+05
Number of atoms	2.6882E+21

Update

Then in the input box, we can enter a unit (Grams, Becquerel, Curie, Number of atoms) and an amount. On pressing Update or Enter key, everything is calculated in one step and shown in the Output. The input quantity (above this is the Grams 1) is shown in light grey.

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